



HANDWOVEN *PRESENTS*

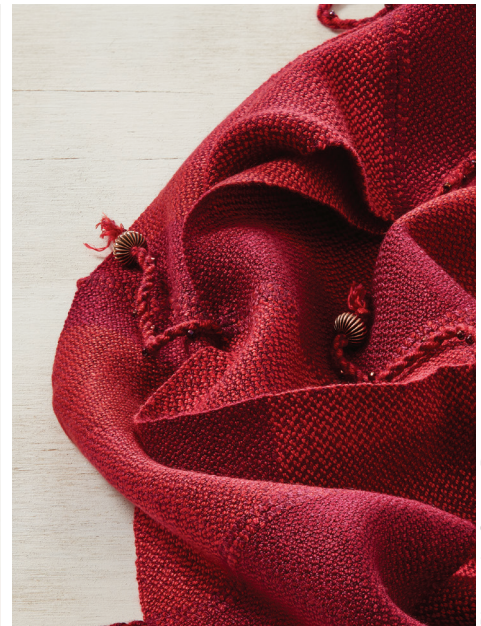
# COWLS AND CIRCULAR SHAWLS TO WEAVE

*Four and Eight Shaft Collection*



Top photos by George Boe (left), Caleb Dane Young (right)  
Bottom Photos by Caleb Dane Young (top left), Harper Point (bottom left and right)





Photos by George Boe

Check out our new collection of scarves and shawls woven on 4- and 8-shaft looms. The patterns include full drafts, and in addition, WIFs for all of them are available for download in the *Handwoven* Library. I'm not really sure of the correct name for these types of scarves and shawls. The most accurate description is circular, a technical-sounding term that really doesn't do these beautiful pieces justice. That leaves us with cowl, Möbius, hood, and poncho. Whatever you call them, they are beautiful, and I hope you enjoy weaving them!

~Susan E. Horton, Editor of *Handwoven*

# Contents

## 4-SHAFT

- 2 Biscuits and Jam Scarf**  
Sarah Jackson, excerpted from  
*Handwoven* May/June 2017
- 5 M's and O's Infinity Hood**  
Deb Essen, excerpted from  
*Handwoven* Jan/Feb 2019
- 8 Möbius Shawl\***  
C. C. Earthly, excerpted from  
*Handwoven* Nov/Dec 2019
- 11 Turnabout Scarf**  
Sarah Jackson, excerpted from  
*Loom Theory Four-Shaft Scarf Collection*

## 8-SHAFT

- 14 Fibonacci with a Twist**  
Andrea Williams, excerpted from  
*Handwoven* Sept/Oct 2021
- 17 Gumdrops and Blossoms Cowls**  
Susan Porter, excerpted from  
*Handwoven* Nov/Dec 2019
- 20 Radiant Möbius**  
Charlene Kolb, excerpted from  
*Loom Theory Eight-Shaft Shawl Collection 2019*
- 25 Sunset Twist**  
Eileen Lee, excerpted from  
*Handwoven* May/June 2022

\*CC Earthly wove the Möbius Shawl project on a rigid-heddle loom but it can also be woven on a 2- or 4-shaft loom.



# Biscuits and Jam Scarf

SARAH H. JACKSON





# Biscuits and Jam Scarf

SARAH H. JACKSON

## STRUCTURE

Twill.

## EQUIPMENT

4-shaft loom, 22" weaving width; 12-dent reed; 1 shuttle and 3 bobbins; 1 ski shuttle or extra shuttle and bobbin; fringe twister.

## YARNS

**Warp:** 8/2 Tencel (3,360 yd/lb, Cotton Clouds), Fuchsia, 570 yd; cotton carpet warp or other scrap yarn to anchor side fringe, 6 yd.

**Weft:** 8/2 Tencel, Burgundy, Ruby, New Red, 156 yd each; Fuchsia, 22 yd.

## OTHER SUPPLIES

Seed beads, size 8, 90 or more; copper beads, approximately ½" in diameter with ⅛" hole, 18; embroidery needle, size 8; small crochet hook, (optional); glue stick; Synthrapol fabric detergent.

## WARP LENGTH

190 ends 3 yd long (includes 2 floating selvages; allows 3" for take-up, about 27" for loom waste).

## SETTS

**Warp:** 27 epi (2-2-2-3/dent in a 12-dent reed).

**Weft:** 26 ppi.

## DIMENSIONS

**Width in the reed:** 7½".

**Woven length (measured under tension on the loom):** 78"–79".

**Finished size after washing:** 6" x 35¼" (folded dimension) with 4¾" fringe along the selvages.

There are two things I want to share regarding this scarf. The first thing is something I always stress when I'm teaching: the value of sampling. Sampling provides opportunities to explore weave structure and color interaction, determine optimum sett, and test other aspects of a concept before committing to the project.

This scarf is a good example of why I'm an enthusiastic fan of sampling. I had (I thought!) an interesting idea for a scarf, but I'd only woven about 3 inches of the sample when I realized it was not going to work on the loom the way I saw it in my mind. Having answered *that* question, I asked myself, "Okay, what other ideas can I explore on this warp?" There's freedom in knowing that a sample doesn't have to *be* anything, but is rather a tool for examining and analyzing ideas. I explored everything I could think of over the remaining 2¼-yard warp. The resulting scarf is the product of one of those explorations.

The second thing I want to share is an online tool: Biscuits and Jam Random Stripe Generator (see Resources). Originally

written to generate random stripe patterns for knitted and crocheted sweaters, scarves, blankets, etc., it's a valuable tool for weavers as well. I wanted to use the same amounts of three colors in the weft, but in random stripe order. Here is how I used the stripe generator.

First I selected three colors. Next, I answered the question: "Which stripe widths should be allowed?" (i.e., 1 row wide, 2 rows wide). Rather than rows, I indicated the widths in woven inches: 1", 2", 3", and 5". In answer to the question "Approximately how many rows total would you like?" I indicated the desired woven length of 72". Finally I clicked on "Generate My Stripes," and then refreshed the page for different patterns until I found one that I liked.

The stripe combination I chose required only a minor amount of tweaking to balance the use of the three weft colors for a total of 24 inches woven in each color.

## RESOURCES

Biscuits and Jam Random Stripe Generator: [www.biscuitsandjam.com/stripe\\_maker.php](http://www.biscuitsandjam.com/stripe_maker.php)

## WEAVING THE SCARF

**1** Wind 188 ends 3 yd long. For ease in warping, wind a second ball of Fuchsia from the cone and hold 2 ends together separated by your fingers to prevent twisting. Measure 2 floating selvages and set them aside.

**2** Use your preferred method to warp the loom, and thread following the draft in Figure 1. Note that the 12-dent reed is threaded 2-2-2-3 per dent for a total of 27 epi. Sley the floating selvages in the 2 outermost dents and weight them over the back beam. Measure 2 lengths of carpet warp 3 yd each and sley them through the reed but not through a heddle, 7" away from each side of the warp. Weight them over the back beam. These

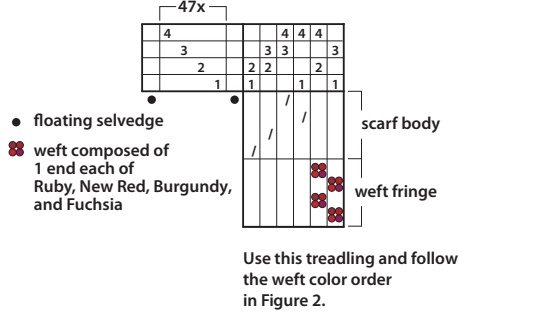
2 ends serve as a guide to maintain the length of the weft used for the twisted fringe along the sides of the scarf. While weaving, adjust as necessary, keeping them 21" apart.

**3** Each of the twisted weft fringes is comprised of 4 ends woven across the warp 4 times for a total of 16 ends in each twisted fringe. To measure on a warping mill, hold 1 end of each of the 4 colors together separated by your fingers to prevent twisting and wind 22 yards of the 4 colors held together. If you wind on a warping board, it is easier to wind in 2 groups for enough yardage. Wind the 4 ends onto the ski shuttle or extra bobbin.

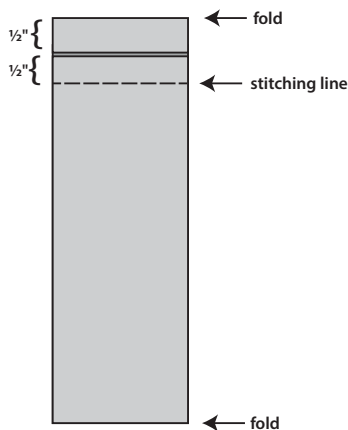
**4** Spread the warp with scrap yarn. Weave the scarf following the treadling in Figure 1 and the weft color order in Figure 2.

## 2. Weft color order

### 1. Draft



### 3. Assembly diagram



Where weft fringe is indicated, weave 4 picks starting from the carpet warp on one side of the warp, through the shed, around the carpet warp on the opposite side of the warp, back through the next shed, and around the opposite carpet warp. Repeat and cut the threads near the starting point. Watch the cut ends of the fringes as the scarf winds around the cloth beam: make sure they don't get caught within the scarf where they could affect the tension of the woven cloth. Measure the scarf as you weave. The finished measurement should be 78"–79".

**5** Remove the fabric from the loom. Secure the raw ends with machine stitching and trim the unwoven warp to 1" on each end.

## PREPARING THE WEFT TWISTED FRINGE

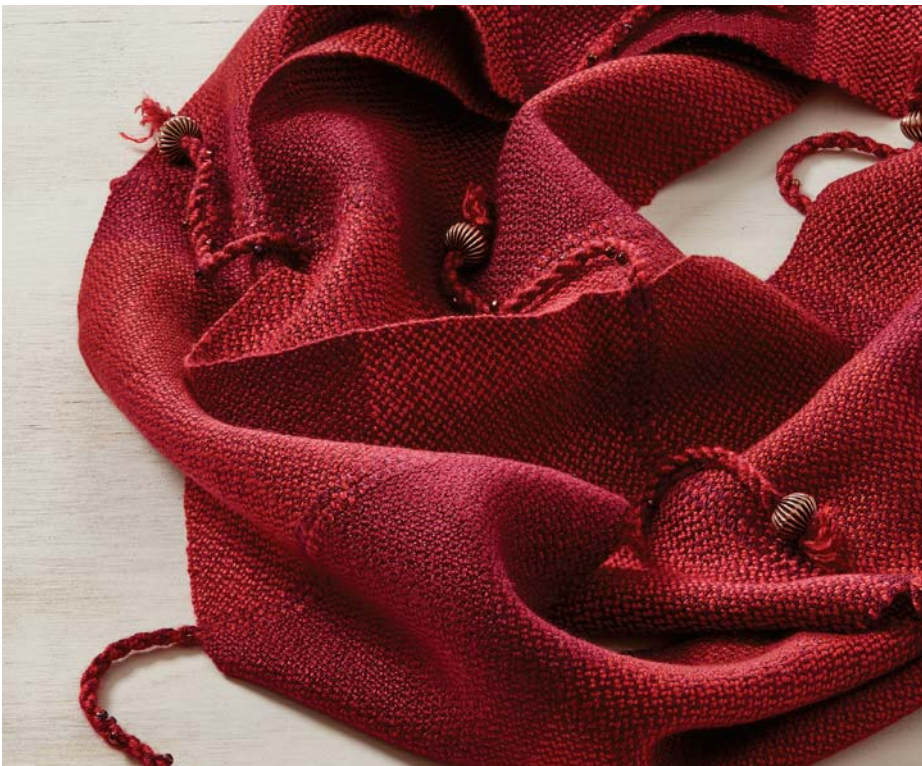
**1** Prepare the weft twisted fringe along the sides as follows: Cut the loops where necessary to separate the fringe ends. Thread 1 seed bead on 5 or more individual ends. Place half of the ends in one of the fringe twister clamps. Place the other half in another clamp. Adjust the beads so none are closer than 1 1/2" to the nose of the clamps. Twist tightly until the cords begin to twist on themselves. Maintaining tension, transfer both cords to one clamp. Tie a 6"–8" length of Tencel (thrums work well) tightly around both cords close to the nose of the clamp. Release the clamp and guide the fringe as it twists, keeping the tied cord free of the twist. When all the fringes have been twisted, apply glue to the end of each fringe below the tied cord. With your fingers, twist the ends slightly, shaping them into a point as much as possible. Let dry completely (the glue will wash out when the scarf is wet-finished). Thread the glued end through a 1/2" bead; push the bead up the twisted fringe far enough that you can tie an overhand knot; slip the tied cord off the end before tying the knot. A crochet hook is helpful when making the knot. Repeat for the remaining fringes.

## FINISHING

**1** To join the scarf: Press 1/2" under on one end of the scarf. Fold the scarf so the two cut edges meet. Stitch 1/2" from the unfolded edge through both layers (see assembly diagram, Figure 3). Press the folded edge down along the just sewn seam and handsew the folded edge to the top layer of the scarf. Stitch the ends of the scarf, enclosing the raw edges between the folded edge and the seam.

**2** Place the scarf in a pillowcase and secure the top with a rubber band. Machine wash or handwash with a small amount of Synthrapol in hot water. Remove from the pillow case, smooth the wrinkles, and hang to dry. While still damp, press on both sides with a warm iron until dry. Trim the fringe evenly below the beads.

**SARAH JACKSON** is blessed by her passion for weaving. She also loves Bible study, knitting, and hula hooping.





# M's and O's Infinity Hood

DEB ESSEN



# M's and O's Infinity Hood

DEB ESSEN

**THE INSPIRATION FOR THIS PROJECT WAS THE NEVER-ENDING WINTER** of 2017–2018 and the resulting “hat hair.” It was a cold, snowy winter and, although I love hats, I don’t love hat hair. I have a lovely infinity scarf that I often wind around my head and neck, but it isn’t wide enough to completely cover the back of my head. I decided a hood with long tails that could wrap around my neck would be just the ticket, but I also wanted the hood to drape around my neck without slowly falling to the floor when inside a building. This led me to connecting the long tails into an infinity hood. After evaluating Jagger Spun Kokadjo sock yarn (a superwash merino/silk blend) for the Yarn Lab article in the *Handwoven* May/June 2018 issue, I decided to use it for this project because it drapes beautifully and is easy to clean.

That was also my winter of fascination with M’s and O’s. I’d never played much with them and frankly, I regret the delay! This versatile weave combines plain-weave blocks (two shafts) with rib-weave float blocks (two shafts) to create pattern. The more shafts you have, the more float blocks you can create. I pulled out my trusty copy of *A Handweaver’s Pattern Book* and looked for a draft. I settled on “2 Fold Large M’s and O’s” with the laced wefts in the rib sections.

I quickly realized I would need to adjust the draft for the Kokadjo’s sett; otherwise, the rib-weave floats would be too long. (See my article in this issue for how to do that.) The treadling is straightforward and the weaving goes quickly. On the loom, the sett looks very open because the sock yarn stretches, getting much thinner under tension. However, once off the loom, the elastic yarn bounces back and helps accentuate the rounded plain-weave blocks.

## RESOURCES

- ◆ Davison, Marguerite Porter. *A Handweaver’s Pattern Book*. Swarthmore, Pennsylvania: M. P. Davison, 1944, 56.
- ◆ Essen, Deb. “Yarn Lab: Fun with Jagger Spun.” *Handwoven* May/June 2018, 62–63.

## WARPING AND WEAVING

**1** Wind a warp of 168 ends 3 yd long. **Note:** This is a knitting yarn, which means it is stretchy. When winding your warp, do not pull on the yarn; this will stretch the yarn and shorten your warp substantially. Gently wind onto the warping board so the yarn is relaxed—it can even sag a bit.

**2** Warp the loom using your preferred method, following the draft in Figure 1. [Deb recommends lashing on or pulling the slack out of a 1" group of warp threads, tying the group into an overhand knot about 5"–6" from the cut ends, and then using those tails to tie onto the apron rod.] Centering for a weaving width of 14", sley 1 per dent in a 12-dent reed.

## STRUCTURE

M’s and O’s.

## EQUIPMENT

4-shaft loom, 14" weaving width; 12-dent reed; 1 shuttle; 1 bobbin.

## OTHER SUPPLIES

Matching sewing thread.

## YARNS

**Warp:** 14/4 Kokadjo (90% superwash wool/10% silk; 1,960 yd/lb; Jagger Spun), Balsam, 504 yd.

**Weft:** 14/4 Kokadjo, Balsam, 370 yd.

## WARP LENGTH

168 ends 3 yd long (allows 9" for take-up, 29" for loom waste).

## SETTS

**Warp:** 12 epi (1/dent in a 12-dent reed).

**Weft:** 12 ppi.

## DIMENSIONS

**Width in the reed:** 14".

**Woven length:** (measured without tension on the loom) 70".

**Finished size:** (after washing) 11" x 54½".



**3** Wind a bobbin with the weft yarn. Spread the warp with scrap yarn using treadles 1 and 2.



## 1. Draft

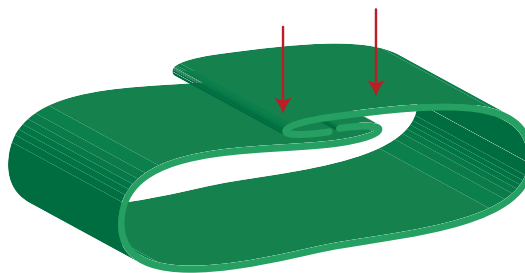
10x						1	2	3	4	5	6
2x	2x	2x	2x	2x	2x	1	4	4	4	4	4
4		4		4		3	3	3	3	3	3
3		2		2		2	2	2	2	2	2
2		1		1		1	1	1	1	1	1
1											
						9x					
						4x					
						4x					
						4x					
						9x					

**Heddle count**

Shaft 4	42
Shaft 3	42
Shaft 2	42
Shaft 1	42
<b>Total</b>	<b>168</b>

## 2. Sewing diagram

Handsew both edges down at folds.



**4** Weave  $\frac{3}{4}$ " of pseudo-plain weave using treadles 1 and 2. This will be folded over to join the ends together. Weave about 68" according to the draft in Figure 1. Keep in mind that the fabric will look very open on the loom. End with  $\frac{3}{4}$ " of pseudo-plain weave using treadles 1 and 2.


**5** Weave a few picks of scrap yarn to protect your weft. Cut the fabric from the loom. Zigzag the ends and trim. Handwash in warm water and lay flat to dry. Iron the fabric.

### SEWING

**1** Create a circle with your fabric: Fold the hems under in opposite directions so that when they lie on top of each other, the raw edges will be inside each fold, as shown in Figure 2. Handsew both edges down at folds with sewing thread.

**2** Fold the hood in half so the hems are on one end. Line up the patterns at the selvages, maintaining the alternating patterns of float blocks next to plain-weave blocks

(this may make the hemmed edges move out of exact center a tiny bit, but don't worry about that). Pin. Using either left-over yarn or matching sewing thread, slip-stitch along one side so that the selvages butt up to one another (do not make a seam) for 9" from the fold opposite the hems. This is the center back of the hood.

**3** Open the hood and fold the corner created by the top fold and the slip-stitched selvages down 2" (see photograph at right for placement). Press and tack the corner to the back of the hood where the selvages sewn together meet in step 2. 



**DEB ESSEN** designs textiles, teaches weaving, and creates kits for handweavers in her business, dje handowovens.



# Möbius Shawl

C. C. EARTHLY



# Möbius Shawl

C. C. EARTHLY

**I WAS AN AVID CROCHETER AND KNITTER** for many years until tendinitis made crocheting and knitting too painful for me to continue. Then I bought a rigid-heddle loom. To my delight, I found that weaving is relaxing, it doesn't aggravate my tendinitis, and it allows me to indulge my fiber obsession.

At the Southern California Handweavers' Guild annual Weaving and Fiber Festival, aka WEFF, I saw a woman wearing a poncho . . . or was it a shawl? And was that a twist? I stalked her through the hall trying to figure it out; then I gave up and just asked her about it.

I tracked down the pattern in *Handwoven's Design Collection #19*. And to be honest, it was quite daunting: 522 ends! 6 shafts! 10 yarn colors! I work full-time at a very demanding job, it was already November, and if I wanted something to wear that winter, I needed to figure out a work-around. I was also conscious that many rigid-heddle weavers weave on a budget, and they often have a stash of "big-box" yarns.

With that in mind, I dipped into my own "big-box" yarn stash and created a symmetrical stripe pattern from bulky yarns. Some textured yarns added interest to the plain-weave structure. The five-dent heddle makes this a quick weave; it can effortlessly be done in a weekend. The shawl is generously sized, but the twist keeps it in place with little worry, and the fringe adds a touch of swagger.

## RESOURCES

- Carr, Margo. "The Mobi-Q Shawl." *Handwoven's Design Collection #19*. Loveland, Colorado: Interweave, 2002, 10–11. Available from [shop.longthreadmedia.com](http://shop.longthreadmedia.com)

**1** Direct warp 152 ends 144" long following the warp color order, Figure 1. These are knitting yarns with stretch, so be careful not to pull the yarn taut while warping. Center for a width of 30 2/5" in a 5-dent heddle.

**2** Allowing at least 5" for fringe, weave a header using scrap yarn to spread the warp.

**3** Wind a shuttle with Electric Blue. Leaving a tail 4 times the warp width for hemstitching, weave 3 picks. Use the weft tail to hemstitch in groups of 2 warp ends. Continue with plain weave for about 118" and hemstitch as you did at the beginning. Weave in scrap yarn as a second header to protect fringe.

**4** Leaving at least 5" for fringe on both ends, cut the fabric from the loom.

## STRUCTURE

Plain weave.

## EQUIPMENT

Rigid-heddle loom, 31" weaving width; 5-dent heddle; 1 stick shuttle.

## YARNS

**Warp:** Charisma (100% acrylic, 498 yd/lb; Loops and Threads), Electric Blue, 320 yd; Fuchsia, 48 yd. Country Loom (100% acrylic, 400 yd/lb; Loops and Threads), Ocean Tide, 96 yd. Cozy Wool (50% wool/50% acrylic, 320 yd/lb; Loops and Threads), Goldenrod, 80 yd; Sweetgrass, 64 yd.

**Weft:** Charisma, Electric Blue, 447 yd.

## WARP LENGTH

152 ends 4 yd long (allows 9" for take-up, 17" for loom waste; loom waste includes fringe).

## SETTS

**Warp:** 5 epi

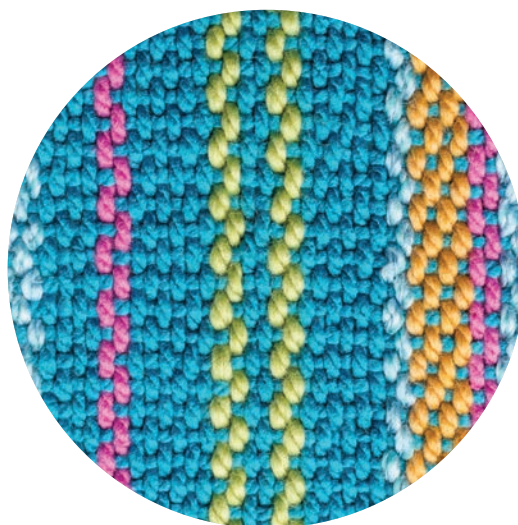
**Weft:** 4 ppi.

## DIMENSIONS

**Width in the heddle:** 30 2/5".

**Woven length:** (measured under tension on the loom) 118".

**Finished size:** (after washing) 27" x 98" with 5" fringe.



**5** Leaving in scrap yarn to help prevent fringe from tangling, machine wash in warm water on gentle cycle. Remove from washer and machine dry on gentle cycle. Remove scrap yarn and trim fringe to 5".



### 1. Warp color order

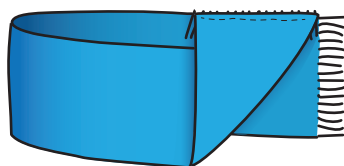
20		4				4		2			2		4				4		
12			2				2					4				2			2
24		4		2				4			2		2		4			2	4
16		2			2		2				2			2			2	2	2
80	10				6		2		6		4		2			10			
<b>152 ends total</b>																			

- Goldenrod
- Fuchsia
- Ocean Tide
- Sweetgrass
- Electric Blue

## 2. Möbius assembly




**Step 1: Fold scarf in half.**



**Step 2: Fold one end up with fringe to inside and sew end to lower selvedge. Turn inside-out to wear.**



6 To make the Möbius shape, twist the cloth once and sew one fringed end to the side selvedge of the other fringed end (see Figure 2). 

*C. C. EARTHLY loves experimenting with inexpensive yarns to encourage as many people as possible to embrace weaving.*

# TURNABOUT SCARF

SARAH JACKSON



Photos by Caleb Dane Young





# TURNABOUT SCARF

SARAH JACKSON

4-SHAFT

**SOFT AND LUXURIOUS**, rayon chenille is a delight to wear but works best in “stricter” weave structures. For that reason, I chose diversified plain weave for this scarf. Diversified plain weave (DPW) has no floats, making it perfect for chenille, which tends to worm when not under control. (Worming occurs when a loop of yarn pulls away from the woven fabric and twists back on itself.) DPW designs typically require eight or more shafts with heavy threads that are usually five or six times the diameter of the fine tie-down threads that are in both warp and weft. The heavy and fine warp threads are often the same color in warp and weft, so the design is created by changing where the warp color or the weft color appears in the cloth.

In a *Handwoven* article about DPW, Madelyn van der Hoogt discussed the history and development of the structure and wondered if Klara Cherepov, who coined the term diversified plain weave, was a “what if” kind of weaver (see Resources). I like to think that I am a “what if” kind of weaver. I’ve woven DPW on eight shafts and wondered, “What if I used only four shafts?” This scarf is one answer to that question. In addition to reducing the number of shafts, I chose to use heavy and fine threads that are similar in weight: the chenille is barely two and a half times the diameter of the finer Tencel. As a result, the fine threads contribute noticeable color accents—pretty flecks of teal, brown, and purple.

I encourage you to be a “what if” kind of weaver, too. Don’t let the customary way of doing things stop you from interpreting traditional structures in new ways. A change in direction or reversal of convention might just be the turnabout you’re looking for!

## STRUCTURE

Diversified plain weave.

## EQUIPMENT

4-shaft loom, 9" weaving width; 8-dent reed; 2 shuttles.

## YARNS

**Warp: Thick:** Gypsy Chenille (100% rayon; 1,300 yd/lb; Cotton Clouds), #228 Topaz, 238 yd. **Thin:** 8/2 Tencel (3,360 yd/lb; Cotton Clouds), Tashkent (variegated), 490 yd.

**Weft: Thick:** Gypsy Chenille, #131 Midnight Teal, 192 yd. **Thin:** 8/2 Tencel, Tashkent, 394 yd.

## OTHER SUPPLIES

Synthrapol textile detergent.

## WARP LENGTH

208 ends (68 chenille, 140 Tencel) 3½ yd long (includes floating selvages; allows 9" for take-up, 27" for loom waste).

## SETTS

**Warp:** 24 epi (1 thick, 2 thin/dent in an 8-dent reed).

**Weft:** 24 ppi (8 thick, 16 thin).

## DIMENSIONS

**Width in the reed:** 8⅞".

**Woven length:** (measured under tension on the loom) about 90" including seam allowances.

**Finished size:** (after washing and joining) 7" x 72".

## RESOURCES

- Jackson, Sarah. “Dancing Circles Scarf.” *Handwoven*, Nov/Dec 2016, 24–26.
- van der Hoogt, Madelyn. “The Draft: Diversified Plain Weave.” *Handwoven*, Nov/Dec 2016, 14–15.

**1** For ease in warping, wind a second ball of Tencel from the cone; while winding the warp, hold 2 ends of Tencel and 1 end of chenille together separated by your fingers to prevent twisting. Wind the 3 ends, 3½ yd long, 68 times plus 2 additional ends of Tencel for a total of 206 ends. Measure 2 floating selvages (Tencel) and set them aside.

**2** Use your preferred method to warp the loom and thread following the draft in Figure 1. Note that the 8-dent reed is threaded 3 per dent (2 Tencel, 1 chenille) for a total of 24 epi, ending with a dent that has only 2 Tencel threads. Sley the floating selvages in the dents on either side of the warp and weight them over the back beam.

**3** Spread the warp with scrap yarn. Wind a bobbin of Tencel and one of chenille. Weave 20 picks with Tencel for the seam allowance as shown in Figure 1. Maintaining a consistent beat and checking to make sure your ppi is close to 24 (8 thick, 16 thin), weave the scarf following the treadling

The diagram illustrates the layout of a quilt block. It features a 4x4 grid of squares. The top row is labeled with widths: 7x, 6x, 4x, 6x, 7x. The right side is labeled with heights: 1, 2, 3, 4. The bottom row is labeled with widths: 7x, 6x, 4x, 6x, 7x. The right side is labeled with heights: 10x (seam allowance), 8x, 50x, 6x, 8x, 10x (seam allowance). The legend indicates:

- sew together
- floating selvedge
- 8/2 Tencel, Tashkent
- chenille, #228 Topaz
- chenille, #131 Midnight Teal

Shaft 4	30
Shaft 3	38
Shaft 2	69
Shaft 1	69
Total	206

in Figure 1 until the patterned area measures about 88".  
Weave 20 picks with Tencel for the ending seam allowance.

**4** Remove the fabric from the loom. Machine zigzag the raw edges. Machine wash with a small amount of mild detergent (Synthrapol is recommended) in hot water. Machine dry on high heat with a terry-cloth towel until completely dry and remove from the dryer immediately. Do not press. (**Note:** Sarah washed and dried her scarf twice in this manner before joining the ends. Future washings should be in cold water.)

**5** To join the ends of the scarf, turn and press one seam allowance toward the gold side and one seam allowance toward the teal side. Machine zigzag  $\frac{3}{8}$ " from the pressed fold on both ends and trim the seam allowance close to the stitching.

**6** Fold the scarf in half so the two ends overlap (the raw edges should barely meet, if at all) and are enclosed between the two layers, positioning evenly between the square motifs on each end. Sew by hand securely across the join and along both edges near the seam (See Figure 2).



Handsew layers together, encasing raw edges.





# Fibonacci with a Twist

ANDREA WILLIAMS





# Fibonacci with a Twist

ANDREA WILLIAMS



## STRUCTURE

Twill.

## EQUIPMENT

8-shaft loom, 10" weaving width; 10-dent reed; 1 shuttle; 2 bobbins.

## YARNS

**Warp:** 8/2 Tencel (100% lyocell; 3,360 yd/lb; Valley Yarns; WEBS), Black and Ecu, 449 yd each; Burgundy, 33 yd.  
**Weft:** 8/2 Tencel, Black and Ecu, 237 yd each.

## WARP LENGTH

286 ends 3¼ yd long (includes floating selvages; allows 8" for take-up, 33" for loom waste).

## SETTS

**Warp:** 30 epi (3/dent in a 10-dent reed).  
**Weft:** 21 ppi.

## DIMENSIONS

**Width in the reed:** 9⅞".

## Woven length:

(measured under tension on the loom) 76".

**Finished size:** (after wet-finishing and sewing) 8½" × 70".

*The detail in this project is not the threading, tie-up, or treadling; it's the counting.* I designed this cowl based on the always-pleasing, never-fail Fibonacci sequence\* of numbers. For the warp, I alternated Black and Ecu in the sequence, creating one side that is predominantly Black while the other side is predominantly Ecu. For a little bit of color interest, and to break up the pattern, I added two accent stripes of Burgundy. I used the same two main colors for weft, weaving half of the cowl in Ecu before switching to Black.

The front and back of the fabric look different, as do the left and right sides of the warp, and with the Ecu weft woven for half of the length and the Black weft woven for the other half, the result was eight distinct designs. To add a bit more drama, when I sewed the cowl together, I created a Möbius strip by adding a half twist. The cowl is foolproof to arrange and styles itself.

\*The Fibonacci sequence is the progression of numbers in which each number is equal to the sum of the two numbers before it: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, and so on.



## Warping tip for complicated warping orders

As you wind, write down each number of ends in the warp color order and cross it out as soon as the ends are wound.

**1** Wind a warp of 284 ends 3¼ yd long following the warp color order in Figure 1. Wind an additional 2 ends, 1 each of Black and Ecu, to use as floating selvages and set them aside. Warp your loom using your preferred method. Sley 3 ends per dent in a 10-dent reed centering for a width of 9⅞". Sley the floating selvages in empty dents on each side of the warp and weight them over the back beam.

**2** Wind bobbins with each of your weft yarns. Spread the warp with scrap yarn.

**3** Weave following the draft in Figure 2, using Ecu for 38" and then Black for 38". Weave several picks of scrap yarn to protect the weft.

**4** Cut the fabric from the loom. Secure the ends with machine stitching. Wet-finish in hot water, hang to dry, and press.



Shaft 8	36
Shaft 7	54
Shaft 6	18
Shaft 5	35
Shaft 4	35
Shaft 3	35
Shaft 2	18
Shaft 1	53
<b>Total</b>	<b>284</b>

10									5		5							<div style="display: inline-block; width: 10px; height: 10px; background-color: #c00000;"></div> Burgundy <div style="display: inline-block; width: 10px; height: 10px; background-color: #d9ead3;"></div> Ecru <div style="display: inline-block; width: 10px; height: 10px; background-color: #000000;"></div> Black
137	55	34	21				13	8				3	2	1				
137	1	2	3							8	13	21	34	55				

**284 ends total**

**2. DRAFT**

The diagram shows a cross-section of a hull with a width of 17x. The draft is indicated by a vertical line on the right. The hull is divided into sections with dimensions: 8 8, 7 7, 6, 5, 4, 3, 2, 1 1. The draft is indicated by a vertical line on the right. The draft is indicated by a vertical line on the right.

	1	2	3	4	5	6	7	8	9	10
8 8	8	8	8	8	8	8	8	8	8	8
7 7	7	7	7	7	7	7	7	7	7	7
6	6	6	6	6	6	6	6	6	6	6
5	5	5	5	5	5	5	5	5	5	5
4	4	4	4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2	2	2	2
1 1	1	1	1	1	1	1	1	1	1	1

● floating seldge



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

**6** Fold one end over approximately  $\frac{1}{2}$ ". Turn the corners to the inside slightly to make a clean edge and press. Fold the other end over approximately  $\frac{1}{2}$ " to the same side of the fabric. Turn the corners under and press.

## RESOURCES

Rosbrugh, Jennifer. "The Slipstitch." [historicalsewing.com/tutorials/the-slipstitch](http://historicalsewing.com/tutorials/the-slipstitch)

Strickler, Carol, ed. *A Weaver's Book of 8-Shaft Patterns*. Loveland, Colorado: Interweave, 1991. 52. #218.

*It's the little things in weaving that bring **ANDREA WILLIAMS** joy: a surprising color combination, a pattern that catches the light just so, or a project that looks much more complicated than it actually is.*

# Gumdrops and Blossoms Cowls

SUSAN PORTER



# Gumdrops and Blossoms Cowls

SUSAN PORTER

## MY FASCINATION WITH STRUCTURE AND COLOR

guides my design process. I begin with one of these elements and it often helps me to determine the other. Lately, I find myself fascinated with weaving curves, so I've experimented with deflected doubleweave, lace weaves, and advancing twills. However, there is nothing quite like the flowing curves that can be woven with networked twills. Since beginning to explore eight-shaft networked drafts, I have had fun creating designs that are almost floral, or that produce small ovals and waves.

When I experiment with color, I am often rewarded with unexpected and delightful effects, and this is especially true with networked drafts. I frequently use two closely related colors in my warps to add depth and richness to the color, but inspired by the work of weavers such as Bobbie Irwin and Marian Stubenitsky, I have also tried adding a third or even fourth color. It's amazing to me how a simple addition can change and enhance a design.

Network drafting allows the creation of designs that are thoroughly original, from drawing the curve to the many choices that follow. For this project, I used weaving software, but you can design networked twills without a computer. The article by Donna Sullivan in the November/December 1995 issue of *Handwoven* is excellent. If, like me, you find that you are enthralled with designing networked drafts, there are lots of additional resources. One of the best is *Network Drafting: An Introduction* by Alice Schlein.

## RESOURCES

- Schlein, Alice. *Network Drafting: An Introduction*. Greenville, South Carolina: Bridgewater, 1994. Digital edition (2008) available from [www.lulu.com](http://www.lulu.com)
- Sullivan, Donna Lee. "Network Drafting Without a Computer." *Handwoven* November/December 1995, 72–74.
- Instructions for sewing a flat-fell seam: <https://byhandlondon.com/blogs/by-hand-london/14077609-nerdy-sewing-tips-the-flat-fell-seam>

**1** Wind a warp bout of 94 ends 4¼ yd long holding the three warp colors together as you wind and following the warp color order in Figure 1. Notice that the bout begins and ends with cayenne. Repeat 3 more times for a total of 4 bouts and 376 ends. Wind 2 ends of cayenne for floating selvages and set them aside. Warp the loom using your preferred method following the draft in Figure 2. Centering for a weaving width of 10½", sley 3-4-4 per dent in a 10-dent reed for an epi of about 37. Sley the 2 floating selvages in an empty dent on each side of the warp and weight them over the back beam.

**2** Wind a bobbin with the weft yarn. Spread the warp with scrap yarn of similar size or slightly thicker than the warp.

## STRUCTURE

Twill.

## EQUIPMENT

8-shaft loom, 11" weaving width; 10-dent reed; 1 shuttle; 1 bobbin.

## YARNS

**Warp:** 16/2 bamboo (100% bamboo rayon; 6,720 yd/lb; Halcyon Yarn), #0120 cayenne, 553 yd; #0070 orange and #0100 burgundy, 527 yd each.

**Weft:** 16/2 bamboo, #0210 navy, 1,327 yd.

## OTHER SUPPLIES

Matching sewing thread.

## WARP LENGTH

378 ends 4¼ yd long (includes floating selvages; allows 11" for take-up, 27" for loom waste).

## SETTS

**Warp:** about 37 epi (3-4-4/dent in a 10-dent reed).

**Weft:** 36 ppi.

## DIMENSIONS

**Width in the reed:** 10½/10".

**Woven length:** (measured under tension on the loom) 115".

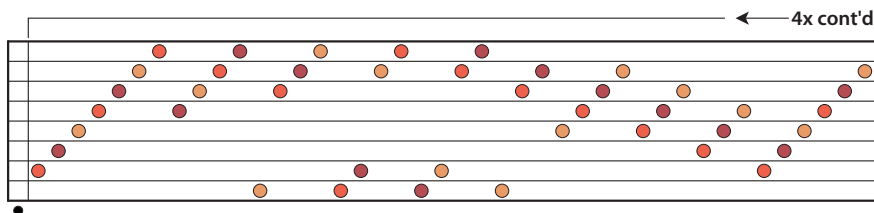
**Finished size:** (after wet-finishing and hemming) 2 cowls, 8½" wide x 52½" long.



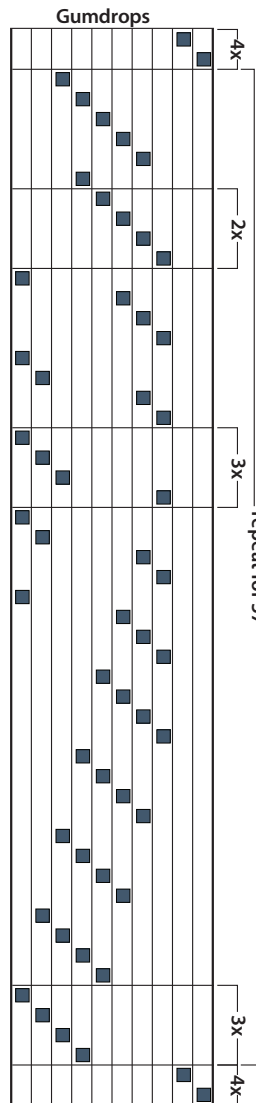
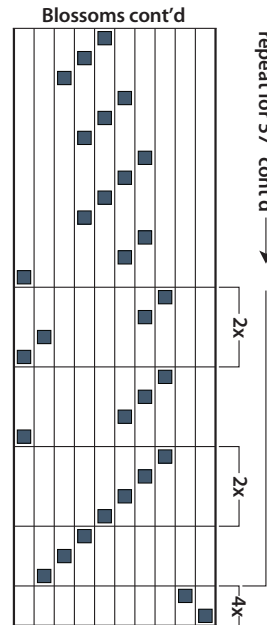
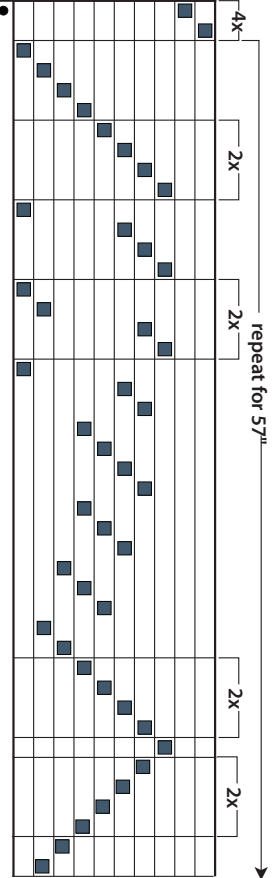
Gumdrops

**3** Weave 8 picks of plain weave. Continue weaving, following the draft in Figure 2 for about 57". End with 8 picks of plain weave. Weave 2 picks of scrap yarn to mark the end of the first cowl.

A dot plot showing the distribution of the number of times a person has been to a museum. The x-axis is labeled '4x' and ranges from 0 to 10. The y-axis represents frequency, with a maximum of 4. Data points are represented by dots of two colors: orange and purple. The distribution is roughly bell-shaped, peaking at 4 visits with a frequency of 4.



	1	2	3	4	5	6	7	8	9	10
8	8	8		8				8		8
7	7	7	7		7				7	
6		6	6	6		6				6
5			5	5	5		5		5	
4				4	4	4		4		4
3		3			3	3	3		3	
2			2			2	2	2		2
1	1			1			1	1	1	



- floating selvedge
- burgundy
- orange
- cayenne
- navy

## 1. Warp color order

			$4x$	
			$31x$	
124		1		■ burgundy
124			1	■ orange
128	1		1	■ cayenne
<hr/>				
376 ends total (4 bouts of 94 ends each)				

## Heddle Count

Shaft 8	44
Shaft 7	72
Shaft 6	64
Shaft 5	56
Shaft 4	48
Shaft 3	24
Shaft 2	32
Shaft 1	36
<b>Total</b>	<b>376</b>


**4** Begin the second cowl with 8 picks of plain weave and follow the Gumdrops treadling sequence, weaving the pattern for about 57" and finishing with 8 picks of plain weave. Weave 4 picks of scrap yarn to protect the weft.

**5** Cut the cowl off the loom and zigzag stitch in the plain-weave area at each end of the cowl. Zigzag stitch as close to the beginning of the pattern as possible without stitching into the pattern area.

**6** Wet-finish by hand in warm water by soaking and gently agitating. Roll in a towel to remove extra water. Hang to dry.

**7** Cut the cowls apart along the scrap yarn and trim to the edge of the zigzag stitching without cutting into the stitching.

8 Press both cowls at the lowest heat on your iron that produces steam. Lay a cowl across your ironing board, twist the cowl once, and bring the opposite ends together so that the wrong side of one end is facing the right side of the other end. Line up the vertical warp elements. Repeat for the second cowl. Finish with flat-fell seams (see Resources).

**Note:** When sewing the flat-fell seams, instead of bringing the raw ends together and trimming off the zigzag stitching, offset the ends so that one end is longer than the other and leave the stitching. 

*SUSAN PORTER spends her time exploring weave structures and dyeing yarn. She lives in Silver City, New Mexico.*



# RADIANT MÖBIUS

CHARLENE KOLB



Photos by Caleb Dane Young



# RADIANT MÖBIUS

CHARLENE KOLB

8-SHAFT

**I SPEND HOURS LOOKING AT DRAFTS** in old weaving magazines, weaving books, or my own binder of saved drafts. I look at the patterns and designs produced by a draft and consider how they will translate to woven cloth. I also sometimes make notations suggesting a particular project the draft would work best for.

This Möbius shawl draft came from my “Binder of Drafts.” I had originally noted that it reminded me of Mesoamerican designs and would be great for yardage. The draft met my requirements for number of shafts and length of floats. I transferred the draft to weaving software and started adding colors to the warp and weft. Using only one color for the warp gave the design an overall busy look, so I broke it up with five bright colors and watched it come to life. I worked out a color palette, inspired by textiles from Guatemala and Mexico, two countries full of weaving cultures I admire.

The next step was to sample; yes, I like to sample because there is usually an unanticipated surprise. After washing my sample, I could see that my colors worked best with a black Venne cotton/wool weft. The fabric had a crisp look and a nice drape. This also told me that it should be a Möbius to showcase the beautiful colors and design. The shawl can be worn as an accessory to an outfit or as a wrap to keep the chill away.

## RESOURCES

Fortin, Sarah. “Möbius Poncho in Shadow Weave.” *Handwoven*, January/February 2012, 54.

## STRUCTURE

Twill.

## EQUIPMENT

8-shaft loom, 21" weaving width; 10-dent reed; 1 shuttle; 1 bobbin.

## YARNS

**Warp:** 20/2 pearl cotton (1,840 yd/3.5 oz; 8,400 yd/lb; Venne; Lone Star Loom Room), #4064 Peacock, #1013 Golden, #4072 Red-Violet, and #5053 Fern Green, 408 yd each; #7099 Black, 234 yd; #3039 Burgundy, 612 yd.

**Weft:** 40/1x2 cotton/wool (60% cotton/40% wool; 1,080/1.75 oz; 9,874 yd/lb; Venne; Lone Star Loom Room), #7099 Black, 1,948 yd.

## WARP LENGTH

806 ends (826 total threads) 3 yd long (allows 7" for take-up, 24" for loom waste).

## SETTS

**Warp:** 40 epi (4/dent in a 10-dent reed).

**Weft:** 40 ppi.

## DIMENSIONS

**Width in the reed:** 20 $\frac{7}{10}$ ".

**Woven length:** (measured under tension on the loom) 77".

**Finished size:** (after wet-finishing and hemming) 17 $\frac{1}{2}$ " x 64".

- 1 Wind a warp of 806 ends (826 total threads), 3 yd long following the warp color order in Figure 1. Warp the loom using your preferred method following the draft in Figure 2. Centering for a weaving width of 20 $\frac{7}{10}$ ", sley 4 ends per dent in a 10-dent reed. **Note:** The 4 black ends that separate the colors in the warp are threaded double in the heddles but are counted single when slewing.
- 2 Wind a bobbin with black cotton/wool weft. Spread the warp with scrap yarn.
- 3 Weave following the treadling in Figure 2 for 77".
- 4 Weave a few picks of scrap yarn to secure the weft.
- 5 Remove the fabric from the loom and secure both ends of the yardage with a zigzag stitch.
- 6 Wet-finish the fabric by machine on a gentle cycle. Line-dry and press with steam.



## 1. WARP COLOR ORDER

	2x			
136	68			
136	68			
136	68			
136	68			
204	68	68		68
38	19	19		19
20	2	2	2	2

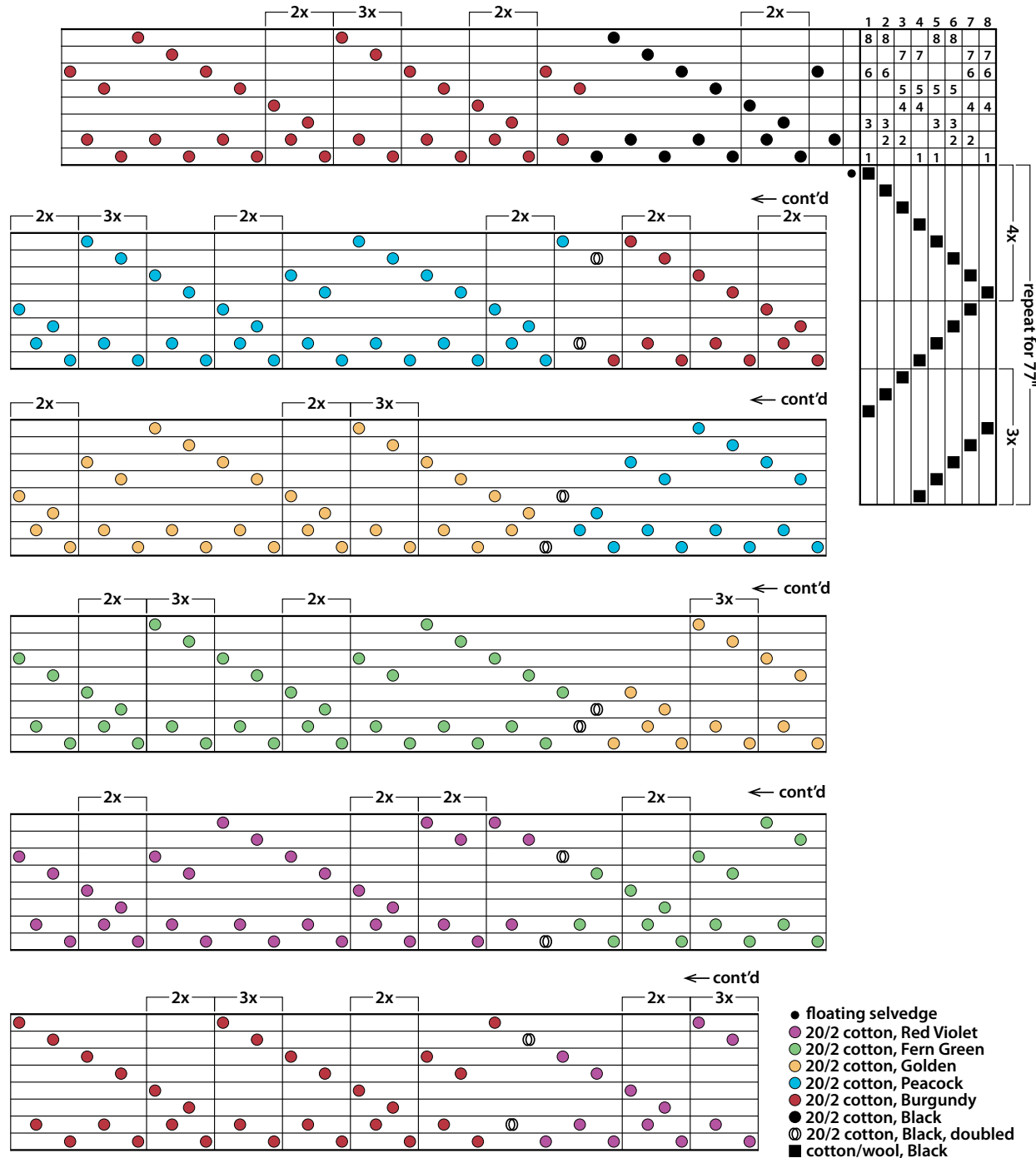
806 ends total (826 total threads)

- 20/2 cotton, Red-Violet
- 20/2 cotton, Fern Green
- 20/2 cotton, Golden
- 20/2 cotton, Peacock
- 20/2 cotton, Burgundy
- 20/2 cotton, Black
- 20/2 cotton, Black, doubled

## HEDDLE COUNT

Shaft 8	72
Shaft 7	72
Shaft 6	56
Shaft 5	55
Shaft 4	74
Shaft 3	74
Shaft 2	202
Shaft 1	201
Total	806

## 2. DRAFT



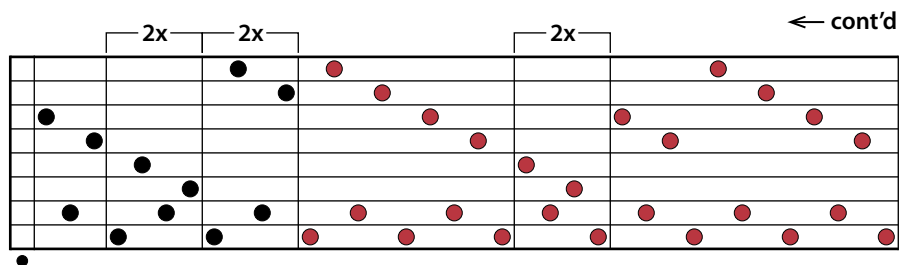
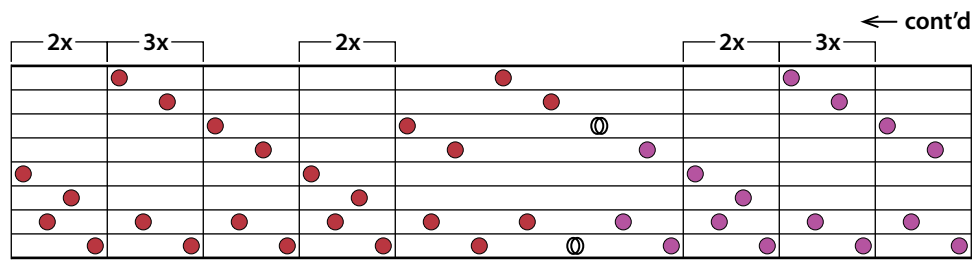
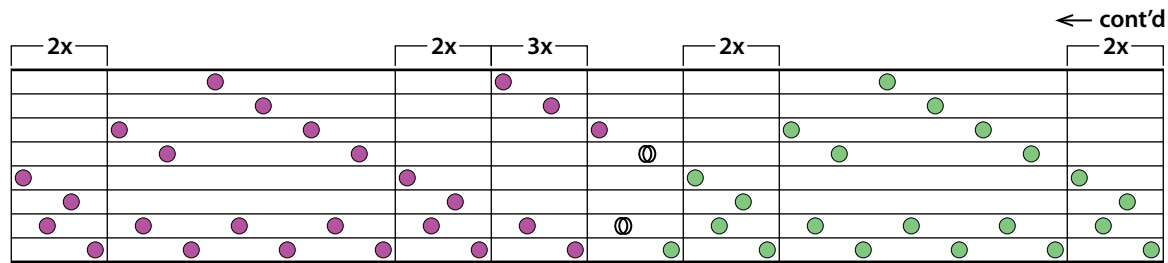
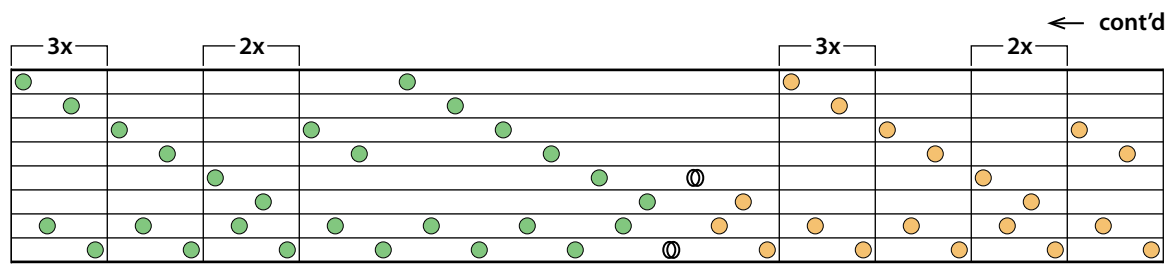
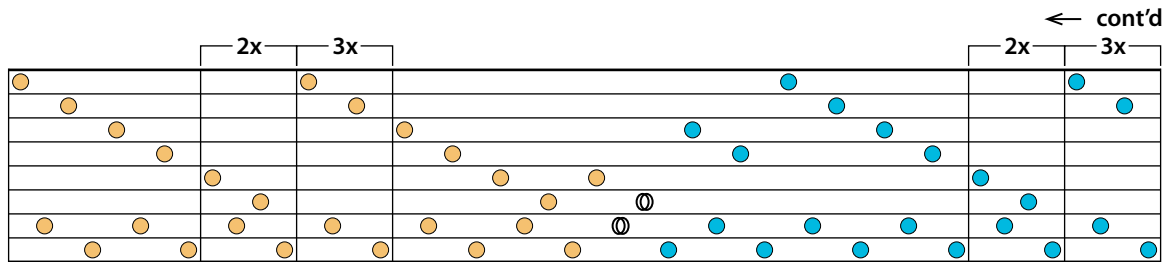
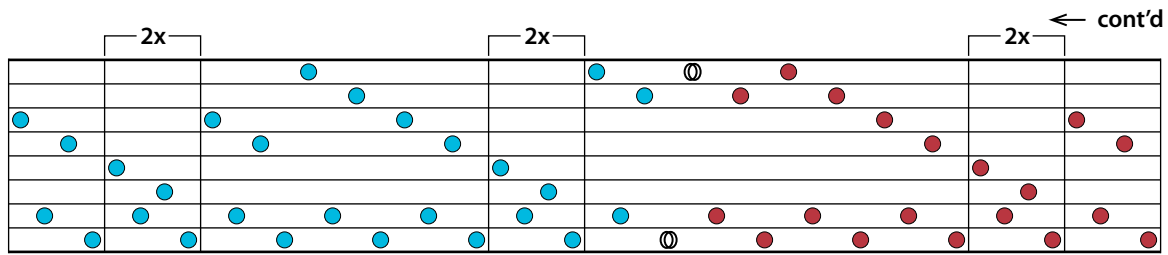
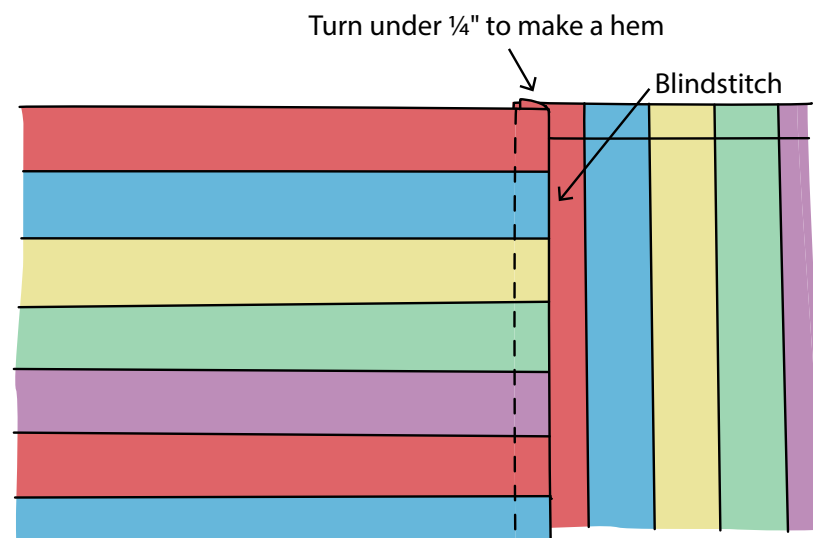
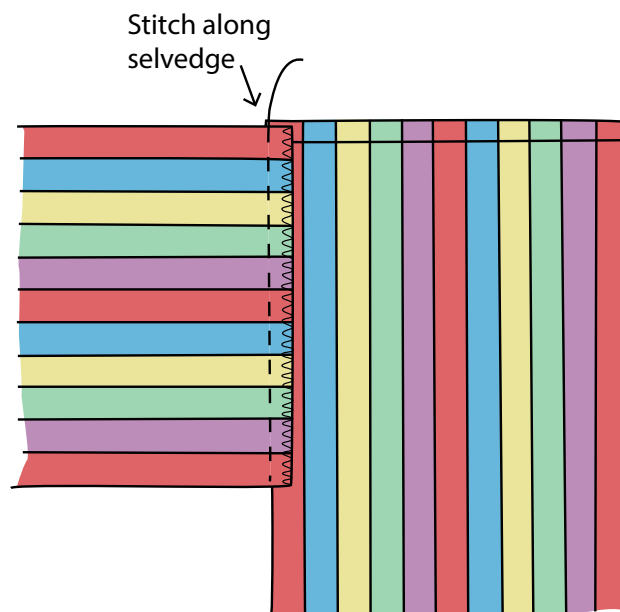
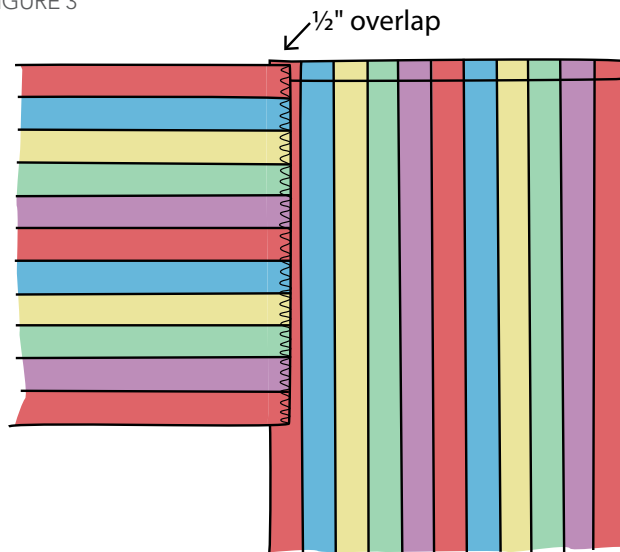





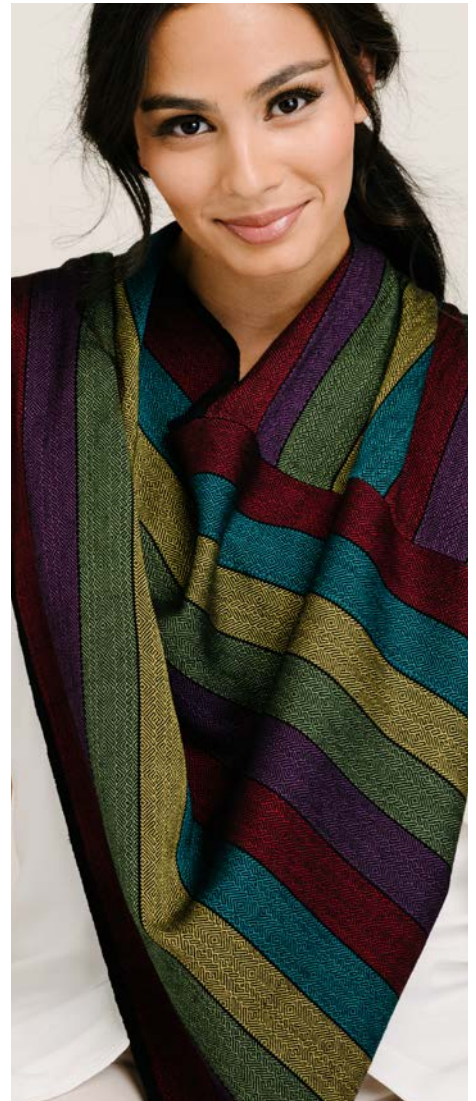
FIGURE 3



## SEWING

(See Figure 3 for Möbius construction.)

- 1 Trim your fabric so that the ends are straight and the total length is about 65". Hem one end of the yardage by turning it under  $\frac{1}{4}$ " twice and then blindstitching. Press. Secure the other end with zigzag stitching.
- 2 Lay the fabric on a flat surface and flip the zigzagged end completely over to make a full twist in the fabric. Abut this end to the selvedge of the hemmed end that is closest to you overlapping the selvedge with the zigzagged edge by  $\frac{1}{2}$ ". Pin.
- 3 Sew the zigzagged end to the selvedge by hand. Keep your stitches along the selvedge line and maintain the  $\frac{1}{2}$ " overlap. Fold the  $\frac{1}{2}$ " overlap under twice to make a  $\frac{1}{4}$ " hem and blindstitch it parallel to the selvedge by hand. 





# Sunset Twist

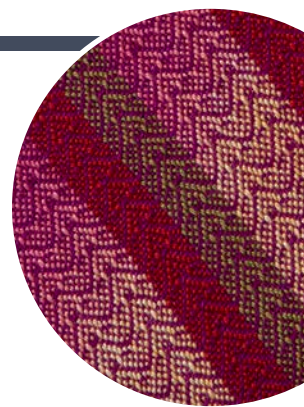
EILEEN LEE





# Sunset Twist

EILEEN LEE



## STRUCTURE

Twill.

## EQUIPMENT

8-shaft loom, 13" weaving width; 12-dent reed; 1 shuttle.

## YARNS

**Warp:** 8/2 Tencel (100% lyocell; 3,360 yd/lb; Valley Yarns; WEBS), Olive and Ruby, 315 yd each; Red Purple, 9 yd. **Painted warp:** 8/2 Tencel (100% lyocell; 3,360 yd/lb; Carr Park Artisans), Autumn Journey, 200 strands 4½ yd warp.  
**Weft:** 8/2 Tencel, Red Purple, 1,146 yd.

## OTHER SUPPLIES

Reed holder, optional but recommended.

## WARP LENGTH

310 ends 4½ yd long (includes floating selvages; allows 12" for take-up, 30" for loom waste; loom waste includes fringe).

## SETT

**Warp:** 24 epi (2/dent in a 12-dent reed).

**Weft:** 24 ppi.

## DIMENSIONS

**Width in the reed:** 13".

**Woven length:** (measured under tension on the loom) 120".

**Finished size:** Two circular shawls, 11½" × 49" with 3" fringe on one end.

*Enhancing a simple twill with a painted warp* creates a beautiful fabric. Going a step further and incorporating solid colors within the painted warp adds even more interest. That is what I did for this shawl using a painted warp and two colors. The effect is of flowing streams of multicolored water or a sunset as it changes colors.

I warp this type of project front to back because I arrange the three warps in the reed first. Directions are given for slewing on a table using a reed holder, which makes the process easier, but you can also sley your reed on the loom. The length of the pre-wound warp determined my warp length and provided sufficient warp for 2 shawls.

**1** Wind 2 separate warps of 70 ends 4½ yd long each of solid colors Ruby and Olive, making small, tight chains. Wind 2 additional ends of Red Purple to be used as floating selvages and set them aside.

**Note:** From the 200-strand pre-wound painted warp you will be using 168 strands. Set the remaining 32 ends aside. Warp the loom front to back so the three warps can be combined in the reed (see Weaving Tip). Centering for a weaving width of 13", sley 2 per dent in a 12-dent reed following the warp color order, Figure 1, and steps a–e. If you are not using a reed holder, follow steps b–d.

- a** Set the reed on a table in a reed holder.
- b** Sley the painted warp following the warp color order, skipping groups of 14 dents for the other two warp colors. Put the warp chain off to the side.
- c** Sley the Olive warp ends in empty dents following the warp color order and skipping groups of 7 dents for Ruby. Set the Olive warp chain off to the side.

## Notes on reed holders

Rather than slewing your reed in the loom, using a reed holder allows you to place the reed in a position and at a height that is comfortable for you. Reed holders are particularly useful in cases when you are slewing the reed with multiple warps.

- d** Finish slewing the Ruby warp ends in the remaining dents.
- e** Move the reed to the loom, keeping the warps stacked: bottom is painted warp, then Olive, then Ruby on top.

Thread the heddles following the draft, Figure 2. Sley the floating selvages in empty dents on each side of the warp and weight them over the back beam.

**2** Wind a bobbin with the weft. Leaving at least 8" of unwoven warp for fringe, spread the warp with scrap yarn.

**3** Leaving a tail 1 yd long for hemstitching, start weaving pattern. After 8 picks, use the tail to hemstitch in groups of 4 warp ends.

## HEDDLE COUNT

Shaft 8	22
Shaft 7	44
Shaft 6	44
Shaft 5	44
Shaft 4	44
Shaft 3	44
Shaft 2	44
Shaft 1	22
<b>Total</b>	<b>308</b>

## 1. WARP COLOR ORDER

		5x	
70	14		■ Olive
70	14		■ Ruby
168	28	28	■ Autumn Journey
<b>308 ends total</b>			

## Weaving tip

When winding on, do not comb the warp (this will make a tangled mess). Lift the warps to separate them. Pull the beater down to open the warps as you are winding.

## 2. DRAFT

22x								1	2	3	4	5	6	7	8
8								8	8			8		8	
7 7								7			7		7		7
6 6										6	6	6		6	6
5 5									5				5	5	
4 4								4		4		4	4		
3 3									3		3	3			3
2 2								2		2	2			2	
1								1	1				1		1
								/	/	/	/	/	/	/	/
								repeat							

● floating selvedge

**4** Continue weaving following the draft, Figure 2, until you can no longer get a shed. Hemstitch as you did at the beginning.

**5** Remove the fabric from the loom leaving 8" of unwoven warp on each end. Prepare a twisted fringe with 3 fringes in each painted warp stripe and 2 fringes in each Ruby and Olive stripe.

**6** Wet-finish by hand in warm water by gently agitating and then leaving the fabric to soak for 20 minutes. Line-dry. Press.

**7** Measure 50" or desired length from fringed end and machine stitch across the fabric. Cut the fabric. Turn the cut end under ½" and press. Twist the shawl once or twice (depending on how it fits you; Eileen used 1½ twists). Overlap the folded end ½" with the selvedge at the fringe end of the shawl. Sew by machine or by hand near the fold and again near the selvedge. Repeat for the second shawl. ➡

**EILEEN LEE** from Grass Valley, California, has a studio near her home where she teaches weaving, spinning, dyeing, and knitting. When not teaching, she spends most of her time weaving and selling her products.

